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Signature

#2890

K/EM-397

SANITIZED VERSION OF HEALTH PHYSICS AND SAFETY SUMMARY FOR THE PRODUCTION DIVISION FOR THE SECOND QUARTER OF 1953 (8/6/53)

(SANITIZED VERSION OF CRD DOCUMENT #KS-393)

Compiled by
S. G. Thornton
Environmental Management Division
OAK RIDGE K-25 SITE
for the Health Studies Agreement

April 23, 1996

Oak Ridge K-25 Site
Oak Ridge, Tennessee 37831-7314
managed by
LOCKHEED MARTIN ENERGY SYSTEMS, INC.
for the U.S. DEPARTMENT OF ENERGY
under Contract DE-AC05-84OR21400

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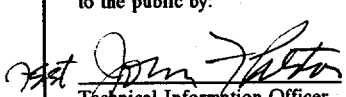


Technical Information Officer
Oak Ridge K-25 Site

5/14/96
Date

[redacted]

INTER-COMPANY CORRESPONDENCE

COMPANY: Carbide and Carbon Chemicals Company LOCATION: Plant Post Office Box P, Oak Ridge, Tennessee

To: Mr. M. F. Schwenn
K-303-8 Building

Date: August 6, 1953

Subject: Health Physics and Safety Summary for the Production Division for the Second Quarter of 1953
KS-393

CC:

Mr. L. W. Anderson	Mr. J. A. Parsons
Mr. J. W. Arendt	Mr. H. M. Preuss
Mr. E. C. Bollinger	Mr. D. H. Rader
Mr. H. W. Carnes	Mr. W. L. Richardson
Mr. R. H. Dyer	Mr. S. J. Senatore
Mr. J. M. Ellis	Mr. G. T. E. Sheldon
Mr. A. A. Forseman	Mr. A. H. Snyder
Mr. A. P. Huber	Mr. H. G. P. Snyder
Mr. K. M. Jones	Mr. E. O. Sternberg
Mr. T. W. Morton	Cascade Foreman
Mr. R. L. Newton	Health Physics File K-25RC
Mr. J. B. Nuchols	File

[redacted] RC
[redacted] FROM
[redacted] RDS K-1034

Introduction

The injury experience for the Production Division showed little change from that of the preceding period, and the number and type of injuries indicate that failure to use personal protective equipment was primarily responsible for the largest single group of injuries. Similarly, the over-all contamination area and hazard indices reflect little change over the levels reported last quarter although, in this instance, the levels of certain areas appear to be of long standing and could be further reduced while others are influenced by continuing release or spillage from processing equipment.

Of major significance were the property damage accidents resulting from explosions and crane equipment failures. Although the resultant personal injuries were slight, these incidents are among those which are potentially of the most serious types.

Recommendations

The following recommendations are based on information contained in the attached report:

1. Supervisory responsibility for routine monitoring of facilities along with the methods used for confinement and control of contamination should be reviewed with special emphasis placed on decontamination of facilities where the extent of contamination is of long standing or where the decontamination methods employed do not effectively reduce the levels. In addition, consideration should be given to improving control of operations where continued spillage or releases are experienced.

2. The use and maintenance of personal protective equipment and devices should be emphasized for both routine work and special jobs with particular attention paid to such usage during the planning stages for the latter.

[redacted]

[redacted] DATA

[redacted]

3. A division-wide program for the handling and identification of ClF_3 cylinders should be initiated.

S. L. Sullins
Health Physics and Safety

Approved: H. F. Henry
Safety and Radiation Hazards

W.G.Butturini:msp

Attachment

[redacted]

HEALTH PHYSICS AND SAFETY ACTIVITIES - PRODUCTION DIVISION

APRIL THROUGH JUNE, 1953

Accident Experience (See attached summary sheet)

A total of 77 injuries which included one sub-major and 76 minor injuries was recorded for the period, bringing the total for the year to date to 151 which is approximately 75% of the total recorded for the entire year 1952. The largest single factor contributing to these injuries was the failure to wear protective equipment, this factor predominating in 20% of the cases. In only 12% of the total were unsafe conditions partially or totally responsible for the injury. All of the 11 final alpha hand counts in excess of the P.A.L. were the result of failure to follow proper hand counting procedures. However, it should also be noted that reports were not received from all locations in which hand counts should routinely be made. An average of 43 film badges was used weekly and no over-P.A.L. badges were recorded.

Accidents involving material release or property damage resulted in a significant increase in the loss or damage associated therewith. Loads dropped from overhead hoisting equipment, and a cylinder explosion of unknown cause were the most significant of the incidents reported from a hazard standpoint since they were potentially capable of seriously injuring personnel even though the injuries resulting from the actual incidents were slight. The other 2 significant property damage incidents involved the failure of a feed cylinder valve with a consequent spread of contamination in the plant locations and a coolant line broken by a high lift while transporting equipment which resulted in a significant plant loss.

Hazards and Control Measures

Although alpha contamination within the Cascade itself is not a major problem, the sizeable increases in contamination levels noted in auxiliary buildings caused a slight over-all increase in divisional levels. Major factors in this increase were the movement of storage drums with resultant spillage in Vault 16-A; small releases from leaky seal cans and repairs to the Beach-Russ pumps in K-631; the spread of contamination during maintenance on the Worthington and "J" Pumps in K-101; and re-contamination of the K-413 Building following the cylinder explosion. Static levels are encountered in certain Cascade locations where contamination was originally due to alumina trap changes and oil changes in the wet air pumps; the ineffectiveness of decontamination procedures employed is at least partially responsible for this condition. Also, it should be noted that, in many cases, decontamination efforts in divisional locations appear to be prompted only by the health physics audit survey reports. The decrease noted in penetrating radiation levels was primarily due to the lower levels found in cylinder storage locations and to the clean-up of beta-emitting materials from the Beach-Russ Pump in K-631 and from the floor in Vault 16-A.

The 41% of spot air samples recorded in excess of the P.A.L., as indicated in the attached summary, reflect an increase, due primarily to the leaking seals on the Beach-Russ Pumps in K-631 and to carbon grinding operations in Vault 16-A.

The handling and storage of ClF_3 cylinders remains a problem within the division, although the situation seems to be under control in the K-29 Area where a color coded cylinder cart is being used for handling such cylinders. However, in other locations, audit inspections reveal many instances in which ClF_3 cylinders are left unattached or unguarded, and, in at least one instance, a ClF_3 cylinder was inadvertently opened by a maintenance man because it was inadequately identified.

[redacted]

Although a storage problem remains in the K-27 Basement, much progress has been made toward eliminating personnel and operating hazards by rearranging, salvaging, and properly stacking the material and obsolete equipment involved. Work on this problem is continuing. Housekeeping in other divisional locations is good.

Work done on the elimination of cylinder valve failures of the type which have occurred recently in K-402-3 and K-1131 appears adequate, and the ultimate goal of replacing the 2-piece valves with one-piece valves is expected to control such incidents.

8/7/53
WGB:msp

[redacted]

HEALTH PHYSICS AND SAFETY EXPERIENCE FOR THE

PRODUCTION DIVISION

Report Period APRIL through JUNE, 1953

I. Injury Statistics and Radiation Exposures:

	This Period	Last Period	Year to Date	Cumulative 1952
Major Injuries	0	1	1	2
Sub-Major Injuries	1	0	1	0
Minor Injuries	76	75	151	207
Frequency	0.00	2.26	1.12	1.67
Severity	0.00	0.06	0.04	0.03
Total Injury Frequency	173	172	172	129
Over-P.A.L. Film Badges	0	0	0	0
Av. mrep/badge/week	5.3	2.2	3.7	4.2
Av. Film Badges used Weekly	43	43	45	41
Over-P.A.L. Hand Counts	11	0	11	1

II. Property Damage Accidents and Material Releases:

	This Period		Last Period		Year to Date		Cumulative 1952	
	No.	Damage*	No.	Damage*	No.	Damage*	No.	Damage*
Fires	1	$49	0		1	$49	5	$29
Motor Vehicle Accidents	1	$18	0		1	$18	0	
Material Releases	4	$45,000	2	$6,500	6	$51,400	16	$26,600
Other Accidents	3	$6,000	0		3	$6,300	3	$9,700

III. Environmental Radiation Statistics

A. Contamination and Penetrating Radiation

	This Period	Last Period	Year to Date	Cumulative 1952
Alpha Area Index	30	29	29	20
Alpha Hazard Index	158	149	143	93
Beta-Gamma Area Index	0.35	0.25	0.33	0.72
Beta-Gamma Hazard Index	0.42	0.29	0.39	1.12

B. Air Activity Levels

	This Period		Last Period		Year to Date		Cumulativ 1952	
	No.	Over P.A.L. (%)	No.	Over P.A.L. (%)	No.	Over P.A.L. (%)	No	Ov P. (%
Long-Term Samples	513	0.19	648	0	1,161	0.086	2,316	0.
Audit Spot Samples	41	22	37	8	78	1	19	

*Monetary loss is given to the nearest $100.

[redacted]

INTER-COMPANY CORRESPONDENCE

COMPANY: Carbide and Carbon Chemicals Company LOCATION: Plant Post Office Box P Oak Ridge, Tennessee

TO: Mr. J. A. Marshall
K-303-7 Building

Date: August 10, 1953

CC: Mr. E. C. Bollinger
Mr. H. J. Culbert
Mr. J. Dykstra (5)
Mr. C. L. Gritzner (7)
Mr. A. P. Huber
Mr. D. H. Rader
Mr. W. L. Richardson
Mr. B. H. Thompson
Mr. A. Varlan (5)
Health Physics File K-25RC
File

Subject: Health Physics and Safety Activities in the Chemical Division for the Fourth Quarter FY-53

Derivative Classifier Name 15AUG Title ADC
OK A82

Introduction

The results of audit surveys show that alpha contamination levels throughout the Chemical Division have increased significantly, every location where contamination is considered a major problem contributing to the divisional increase. Penetrating radiation levels, however, remained low and relatively unchanged, and the number of personnel exposed to penetrating radiation intensities in excess of the P.A.L. continues to decrease. In over three-quarters of the cases where short-term air activity exceeding the P.A.L. was noted, the proper respiratory protection was not worn by all personnel exposed. The total injury frequency rate increased significantly but remained lower than the value reported for a similar period in 1952. The present rate is the second highest of the plant divisions and is significantly higher than the plant average. A significant increase in the number of safety meetings held in divisional locations was noted.

Recommendations

The following recommendations are made, based on the above factors and other information contained in the attached report:

1. More frequent and thorough methods of decontamination should be instituted in each location to avoid the continued build-up in the levels of alpha contamination.

2. Health Physics and safety rules should be posted at all entrances to Buildings K-1131 and K-1231 as an aid to visitor protection from existing hazards due to contamination and specific hazardous operations.

3. Proper respiratory equipment should be worn by all personnel where air contamination is in excess of the P.A.L., and efforts should be made to reduce this contamination by control of the operations contributing to these high levels.

[redacted] [redacted]

4. All employees should be re-instructed in the proper method of hand counting to minimize the possibility of their leaving the plant with hands contaminated above the P.A.L.

S. L. Sullins
Health Physics and Safety

G.S.Hill:msp

Attachment

for Approved: H. F. Henry
Safety and Radiation Hazards

[redacted]Y

[redacted]

HEALTH PHYSICS AND SAFETY SUMMARY - CHEMICAL DIVISION

APRIL THROUGH JUNE, 1953

[redacted]

Summary

Four major injuries occurred in the Chemical Division, increasing the frequency rate to 13 as shown in the summary attachment. The total injury frequency rate increased 19% during this period with cuts, bruises, and abrasions being the most prevalent types of injuries and the fingers and hands the parts of the body most frequently involved. Three material releases were reported; one occurring in K-1131 involved radioactive material while the other 2 were acid spills from leaking systems. The number of safety meetings increased during this period, and all locations in the division except the K-303-6 Process Laboratory participated in the meetings.

The alpha contamination levels increased significantly in all divisional locations, the area index noted in the summary attachment showing an over-all increase of 21% and the hazard index an increase of 83% from the already high divisional levels. The beta-gamma radiation indices remained relatively low, increasing only slightly over the corresponding levels reported last quarter. Two film badges showed over-P.A.L. readings, thus continuing a trend to less exposure to radiation exceeding the P.A.L. Eleven valid cases of final routine hand counts exceeding the P.A.L. were noted, this exceeding recent divisional experience. Although only one of the routine air samples submitted from 4 divisional locations was over the P.A.L., it should be noted that the number of such samples taken decreased approximately 10% during this period. However, 32% of all spot air samples taken were over the P.A.L. and, in 67% of these cases, proper respiratory equipment was not being worn by all employees involved.

Accident Experience

A. Personnel Injury

All of the 4 major injuries in the division resulted from failure of the employees to take proper precautions during the performance of routine operations. However, from the viewpoint of significance with respect to the division, the most significant injury occurred when an employee from another division was knocked down by a vehicle driven by a Chemical Division operator who did not have a Government driver's permit and was driving a vehicle known to be defective

The total injury frequency rate increased 19% during this quarter as compared to the previous report period but is lower than the rate reported for the same period during 1952. Cuts, bruises, and abrasions were the most common types of injuries in the division, these occurring in more than 50% of the incidents; in addition, burns were also of significance in K-1131.

B. Material Releases and Property Damage Accidents

The only significant material release of a radioactive nature reported resulted from the failure of a 2-piece valve of a UF_6 cylinder; the controls which have now been set up to prevent the recurrence of this type of incident appear adequate. Only one vehicular accident occurred. No fires were reported, and the single vehicular accident occurring is noted above. In addition to these, the rupture of an HF absorber in K-1301 resulting in approximately $40 damages, was the only property damage accident occurring.

Hazards and Control Measures

A. Unsafe Conditions and Acts

Significant control steps for some of the major divisional problems which have recently been taken include covering of the electrical wiring of the K-1231 crane, provision for exhaust and filtering systems for the K-1037 alcohol bath installation of mechanical aids to move heavy equipment in the K-1401 Compressor Cleaning Area, and the provision of interlocking safety devices for K-1037. However, it should be noted that among the other divisional problems which have significant accident potentiality are the use of the hydrogen production of the Fluorine Generation Room without explosion-proof equipment, the movement of heavy ash receivers by the crane in K-1131 through the congested tower area over the heads of operating personnel and over equipment enclosing process gases, and the partial blocking of safety showers in the K-1410 Compressor Cleaning Area and those in K-303-6 Process Laboratory by improper storage of miscellaneous items of equipment.

B. Alpha Contamination

The alpha contamination area and hazard indices for this report period showed an increase of 21% and 83%, respectively, over the already high divisional levels. Increases of from 10% up as much as 400% and from 40% to 600% for the area and hazard indices, respectively, were noted in K-1131, K-2231, K-1410, K-1301, K-1303, and the K-131 Recovery Operations. The rise is considered to have resulted from the release and spillage of radioactive material during normal feed operation, pulverizing operations, and recovery processes without adequate decontamination of facilities following these operations.

C. Penetrating Radiation

The beta-gamma radiation levels remained relatively low and were only slightl higher than last quarter. The main sources of penetrating radiation continue to be the K-1131 ash collecting systems and the ash-feed drums in K-1231.

D. Air Contamination

Routine air samples were submitted from 4 of the 5 locations which normally sample building air on a shift-length basis. No samples were reported from the K-131 Recovery Building and decreases were noted in the K-1231 and K-1410 sampling programs due to the improper maintenance of sampling devices. The only shift-length sample in excess of the P.A.L. resulted from the emptying of a UF_6 hopper in K-1131. Of 55 over-P.A.L. spot air samples taken in the Chemical Division, 48 were taken in K-1131 where, in 77% of the 48 cases, proper respiratory equipment was not being worn by all persons exposed; the remaining 7 samples were taken in K-1231 but, in these cases, all personnel were properly protected.

E. Personnel Monitoring

The trend to a lower number of personnel exposed to penetrating radiation in excess of the P.A.L. continued during this quarter. Only 2 badges showing readings above the P.A.L. were reported, these occurring in K-1131 where routine assignments in the tower and tray areas were thought to have led to

the over-exposures. Ten cases of personnel recording final hand counts exceeding the P.A.L. were reported from the Cascade Service Group and one in K-1301. In each case, the employee failed to take proper note of the calibration values recorded and thus apparently did not realize that this final check exceeded the P.A.L.

Accident Precention Highlights

A. Safety Meetings

The number of safety meetings held increased during this report period, all locations in the division participating in such meetings with the exception of the K-303-6 Process Laboratory.

B. Housekeeping

Improvements in housekeeping have been shown in K-1231, K-131, and K-1410 as a result of the removal of equipment previously stored in and around these buildings. However, in K-1037 and the K-131 Recovery location, revisions and installation of process equipment have led to a significantly lower standard of housekeeping than that noted previously.

8/11/53
GSH:msp

[redacted] -4

HEALTH PHYSICS AND SAFETY EXPERIENCE FOR THE

CHEMICAL DIVISION [redacted]

Report period APRIL through JUNE, 1953

I. Injury Statistics and Radiation Exposures:

	This Period	Last Period	Year to Date	Cumulative 1952
Major Injuries	4	2	6	6
Sub-Major Injuries	0	1	1	2
Minor Injuries	190	157	347	795
Frequency	12.6	6.4	9.5	5.28
Severity	0.17	0.07	0.12	0.12
Total Injury Frequency	593	499	558	707
Over-P.A.L. Film Badges	2	1	3	71
Av. mrep/badge/week	26.7	24.1	25.4	29.5
Av. Film Badges used Weekly	162	155	158	139
Over-P.A.L. Hand Counts	11	5	16	0

II. Property Damage Accidents and Material Releases

	This Period		Last Period		Year to Date		Cumulative 1952	
	No.	Damage	No.	Damage	No.	Damage	No.	Damage
Fires	0	-	0	-	0	-	0	-
Motor Vehicle Accidents	1	$41	0	0	1	$41	0	-
Material Releases	3	-	2	-	5	-	4	-
Other Accidents	1	$40	0	-	0	-	0	-

III. Environmental Radiation Statistics

A. Contamination and Penetrating Radiation

	This Period	Last Period	Year to Date	Cumulative 1952
Alpha Area Index	64	53	60	53
Alpha Hazard Index	1,081	592	853	509
Beta-Gamma Area Index	0.66	0.61	0.64	1.13
Beta-Gamma Hazard Index	1.4	1.14	1.26	2.05

B. Air Activity Levels

	This Period		Last Period		Year to Date		Cumulative 1952	
	No.	Over P.A.L. (%)	No.	Over P.A.L. (%)	No.	Over P.A.L. (%)	No.	Over P.A.L. (%)
Long-Term Samples	776	0.13	855	0.12	1,631	0.12	3,004	1.8
Audit Spot Samples	178	32	85	41	263	34	195	40

[redacted]

[redacted]

-12

[redacted]

INTER-COMPANY CORRESPONDENCE

COMPANY: Carbide and Carbon Chemicals Company LOCATION: Plant Post Office Box P, Oak Ridge, Tennessee

TO: Mr. Sylvan Cromer, K-1034 Building [redacted]

August 10, 1953

CC: Mr. R. M. Batch
Mr. D. C. Brater
Mr. A. P. Huber
Mr. R. B. Korsmeyer
Mr. J. A. Martin
Mr. S. H. Smiley
Mr. D. H. Rader
Mr. W. L. Richardson
Health Physics File K-25RC
File

Subject: Health Physics and Safety Activities in the Engineering Division for the Fourth Quarter FY-53

Introduction

Of special interest in the attached report of recent divisional safety and health physics activities is the decreasing trend of minor injuries and the continued accumulation of exposure hours by the division without a lost time injury, the current total being almost 1,700,000 man-hours. Also of significance, primarily because of their potential seriousness, were the property damage accidents resulting from an explosion of a halogen compound mixture and misoperations of cranes. Although divisional surface contamination continued to increase as a result of K-1413 operations, activities directed to alleviating this condition are well underway, and the alpha activities of the general room air remains well within the P.A.L. Divisional problems with respect to penetrating radiation appear to be adequately handled.

Recommendations

The following recommendations are based on information contained in the attached report:

1. Operations involving the use of highly reactive halogen compounds should continue to receive close supervision and, where reactions may be unpredictable, additional safeguards to protect personnel and equipment should be provided.

2. Crane maintenance schedules and operating procedures should be reviewed and modified to assure good operation and expeditious maintenance.

3. Consideration should be given either to expanding formal safety meetings or to providing some alternate means of periodically encouraging employee interest in safety and health physics problems.

4. General housekeeping should be improved to reduce potential safety hazards within the division.

S. L. Sullins
Health Physics and Safety

W.P.Ellis:msp

Attachment

[redacted]

Approved: H. F. Henry

HEALTH PHYSICS AND SAFETY ACTIVITIES - ENGINEERING DIVISION

APRIL THROUGH JUNE. 1953

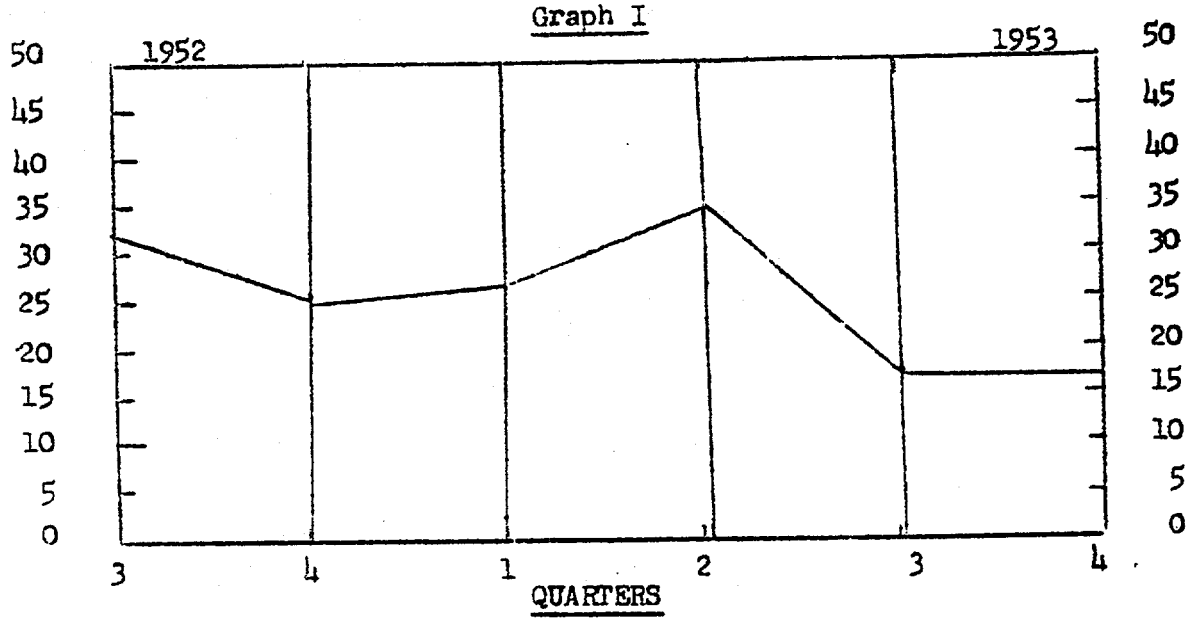
Accident Experience

1. Personnel Injuries

The 306,470 man-hours worked during the quarter by Engineering Division personnel established a new divisional record of 1,697,878 continuous man-hours worked without a lost time injury, this accomplishment having been attained in 564 working days. In addition, no sub-major injuries marred the experience and the recent continued downward trend in minor injuries is indicated in Graph I. About half of the 17 injuries sustained were cuts, abrasions, or contusions to the hands, fingers, and legs, and approximately one-fourth were eye injuries resulting from foreign bodies in the eye. It is noteworthy that about half of the injuries occurred in office facilities where the hazard potential is significantly less than is found in operating areas.

MINOR INJURIES

Graph I



2. Personnel Monitoring

Averages of 35 film badges and 22 film rings used weekly in the division showed no over-P.A.L. exposures.

The results of routine personnel checks on-the-job show that more than one-third of the employees had contaminated hands and personal shoes while approximately one-half of those checked had contamination over the P.A.L. on issued shoes and clothing. This appreciable increase in personnel contamination over that of the last period may be attributed to the increase in contamination levels.

An average of 18 persons made daily routine hand checks with no readings over the P.A.L. being reported.

3. Property Damage

The most significant incident in the Engineering Division during the quarter was the explosion of the oil reservoir of a Stokes pump in the K-1401 Basement as a result of equipment misoperation and a lack of information concerning some of the hazards of materials relatively new to the plant. Although no personal injuries were incurred, this resulted in damage amounting to approximately $1,000 and the hazard potential of the accident was much more serious than the loss indicates. The causes of 2 crane incidents which recently occurred in the K-1401 Design Development Area, resulting in a broken hoisting cable and cable trollies falling from their track, were considered to be the result of inadequate inspection and preventive maintenance; these involved insignificant damage. There being no motor vehicle accidents or fires reported, the only other property damage incident resulted when a train struck and damaged a security gate under construction by a sub-contractor. The total property damage for the division during the quarter was about $1,260 as compared to no loss for the previous period.

4. Material Releases

Although no major material releases were reported, 2 small releases of UF_6 occurred in Buildings K-1413 and K-633 and were quickly controlled.

Hazards and Control Measures

1. Air

The K-1413 Building is the only Engineering Facility in which long-term air samples are taken, none of those showing general air activity over the P.A.L. However, 37% of the spot air samples were above the P.A.L., the data taken thus indicating that air activity in excess of the P.A.L. is found only when a system is open or when powder is being handled in open containers. The type of operations responsible for this condition include loading the UO_3 dryer, exchanging feed cans on the hopper, and exchanging the receiving drums on the trays. Mandatory respiratory protection has been designated for these operations and, for the most part, this control is effectively administered.

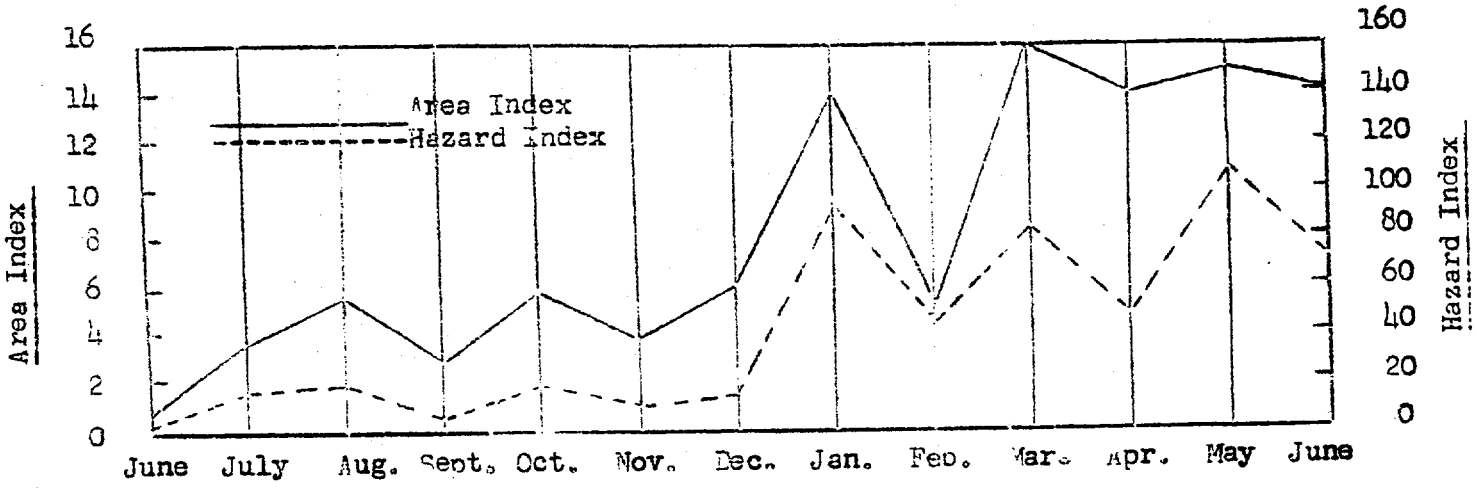
2. Alpha Contamination

As shown in Graph II, contamination levels have progressively increased during the past year in the Engineering Division following the same general pattern as that found in the K-1413 Building (Graph III). Although the K-633 Building and the K-1401 Basement are included in the divisional experience, their average contamination is sufficiently low that its only effect is a reduction in the over-all area and hazard indices for the division. The area index reached its peak of 16 in March and leveled off, but the hazard index continued to rise, reaching a peak of 108 during May. The indices are largely influenced by the start-up of powder handling operations and the effectiveness of job methods and clean-up in the K-1413 Building. However

better operating methods are being developed in this area, and a study is underway to determine if a more efficient floor sealer and decontaminating procedure can be found.

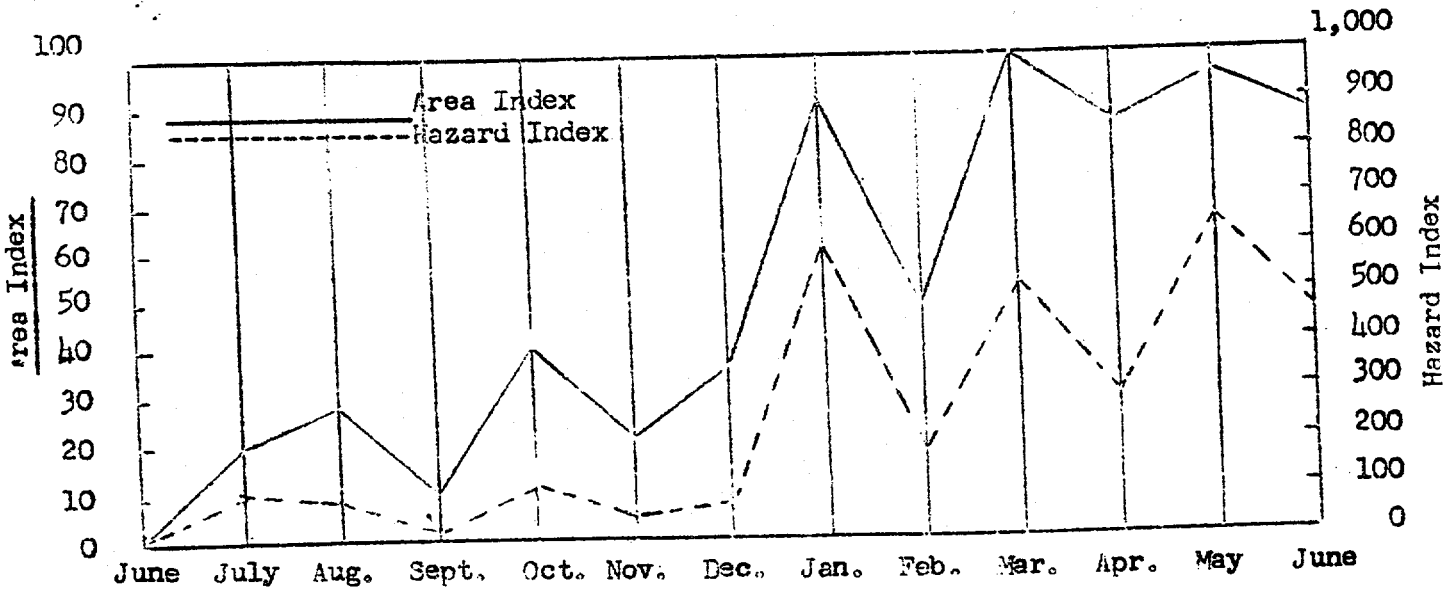
Graph II

Engineering Division



Graph III

K-1413 Chemical Development Building



3. Penetrating Radiation

No significant routine penetrating radiation problems were shown by location audits, although some beta radiation may be anticipated when systems are open.

Accident Prevention

Significant potential personnel hazards exist in work being done with highly reactive halogen compounds in the K-1401 Design Development Area. The Stokes pumps and other hazardous equipment used have not yet been sufficiently barricaded to provide adequate protection for personnel during operation. In addition, numerous unsupported compressed gas cylinders, needed emergency shower repairs, and unguarded belt drives are among the items noted during audit inspections.

General housekeeping has improved in the Engineering Division, primarily as a result of efforts to clean-up in the K-1401 Area. However, in many locations, housekeeping could be markedly improved.

Monthly safety meetings are now being held and reported by Mechanical Design, Instrument Engineering, Plant Engineering, and Electrical Engineering Groups which have relatively minor personnel safety problems; however, there is little indication that those operations having the more significant safety hazards have any type of more or less formalized methods of encouraging employee participation in the divisional safety activities.

WPE:msp

8/10/53

SAFETY AND HEALTH PHYSICS EXPERIENCE FOR THE

ENGINEERING DIVISION

Report Period APRIL through JUNE, 1953

I. Injury Statistics and Radiation Exposures:

	This Period	Last Period	Year to Date	Cumulative 1952
Major Injuries	0	0	0	0
Sub-Major Injuries	0	0	0	0
Minor Injuries	17	17	34	119
Frequency	0	0	0.0	0.0
Severity	0	0.0	0.0	0.0
Total Injury Frequency	55	57	56	113
Over-P.A.L. Film Badges	0	0	0	0
Av. mrep/badge/week	6.8	6.8	6.8	5.77
Av. Film Badges used Weekly	35	33	34	32
Over-P.A.L. Hand Counts	0	0	0	0

II. Property Damage Accidents and Material Releases

	This Period		Last Period		Year to Date		Cumulative 1952	
	No.	Damage	No.	Damage	No.	Damage	No.	Damage
Fires	-	-	-	-	-	-	-	-
Motor Vehicle Accidents	-	-	-	-	-	-	3	$1,057
Material Releases	2	-	3	-	5	-	5	-
Other Accidents	3	$1,258	-	-	3	$1,258	-	-

III. Environmental Radiation Statistics

A. Contamination and Penetrating Radiation

	This Period	Last Period	Year to Date	Cumulative 1952
Alpha Area Index	15	13	14	3.7
Alpha Hazard Index	74	69	71	11.3
Beta-Gamma Area Index	0	0	0	0
Beta-Gamma Hazard Index	0	0	0	0

B. Air Activity Levels

	This Period		Last Period		Year to Date		Cumulati 1952	
	No.	Over P.A.L. (%)	No.	Over P.A.L. (%)	No.	Over P.A.L. (%)	No.	Over P.A. (%
Long-Term Samples	420	0	483	0	903	0	1,448	
Audit Spot Samples	78	37.2	17	6	95	31.6	32	6

[redacted] OFFICIAL USE ONLY [redacted]

DISTRIBUTION

1. K-25 Site Records (RC)
2. ChemRisk/Shonka Research Associates
3. DOE Public Reading Room
4. S. G. Thornton (K-25 EMD)